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ABSTRACT

A group of 18 children from 5 to 12 years old in a FLES course in Mandarin Chinese were graded by three native speakers on their ability to repeat Mandarin Chinese sentences with which they were already familiar and on their ability to produce appropriate sentences to describe posters used in the Chinese class. These grades in Chinese were correlated with the children's age in months and with their scores on two subtests of the Wing Standardised Test of Musical Intelligence and five subtests of the Illinois Test of Psycholinguistic Abilities. All correlations between age, musical talent and psycholinguistic abilities on the one hand and achievement in Chinese on the other were positive, but only correlations with certain of the subscales of the ITPA were statistically significant. The results suggest a positive relationship between psycholinguistic maturity and potential success in foreign language learning. (Author)

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AGE, MUSICAL TALENT, AND CERTAIN PSYCHOLINGUISTIC ABILITIES IN RELATION TO ACHIEVEMENT IN A FLES COURSE IN CHINESE

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This study investigates three hypotheses concerning factors which affect foreign language learning: two of these hypotheses are drawn from the "folklore" of accepted ideas about talent in foreign languages, while the third is suggested by more recent developments in psycholinguistic research. These are the hypotheses:

1. There is an inverse relationship between age and the ability to learn a foreign language, i.e. younger children learn foreign languages more easily than older ones.
2. There is a positive relationship between musical talent and the ability to learn a foreign language.
3. There is a positive relationship between certain types of psycholinguistic ability and the ability to learn a foreign language.

The Literature

Age: There have been several recent discussions of the widespread belief that the ability to learn a foreign language diminishes with age (see Olson and Samuels 1973), but two points emerge: 1) Only a few writers claim a superiority for younger children in all skills (Penfield and Roberts 1959, Andersson 1973), but more claim that younger children are superior in learning pronunciation (see Diller 1971 for one explanation). 2) Experimental studies comparing achievement in language learners of different ages tend to show an overall advantage for older learners (Asher and Price 1967), while studies of pronunciation as an isolated aspect have mixed results, with some showing better performance among younger learners (Herold 1970), while others show older learners superior in

pronunciation (Grinder, Otomo and Toyota 1961).

Musical Talent: Investigators using the Seashore Test of Musical Talent have found a significant relationship between certain of its scales and success in foreign language learning (Dexter 1934, Arellano and Draper 1972). Dexter and Omwake (1934) found little or no relationship between pitch discrimination and tonal memory on the one hand and foreign language learning on the other, although later investigators (Pimsleur, Stockwell and Comrey 1962, Blickenstaff 1963) indeed found such a relationship. Eterno (1961) found a relationship between overall musical talent as measured by another test and success in foreign language pronunciation.

Psycholinguistic Ability: There is an extensive literature on the relationship between I.Q. and foreign language learning ability, but recent criticism of the vagueness of the concept of a global I.Q. suggests that certain specific verbal or psycholinguistic abilities might be more relevant to foreign language learning success. Studies of the relationship between these psycholinguistic abilities and foreign language learning is still scanty, however. Pimsleur, Stockwell and Comrey (1962) found that verbal I.Q. and word fluency influenced foreign language learning, while Connor (1968) found non-achievers in audio-lingual courses scored lower in digit-span tests than did achievers.

The Experiment

Eighteen children aged 5 to 12, participants in a voluntary, after-hours course in Mandarin Chinese at an Ames, Iowa, elementary school, were the experimental subjects. It was hoped that by using children from the

whole range covered by elementary school it would be possible to detect any age-related trend in learning ability.

The subjects were given five subtests from the Illinois Test of Psycholinguistic Abilities, an instrument used widely for diagnostic work among children ranging from preschool through the fourth grade, and two subtests from the Wing Standardised Test of Musical Intelligence, a test usually used in Great Britain with older elementary school children.

Scores on the standardized tests were correlated with grades given by three native speakers of Mandarin Chinese who listened to tape-recorded samples of the children's performance in the target language. Two recordings were made of each child's performance during the ten-week duration of the course. Each sample consisted of their repetitions of fifteen tape-recorded sentences familiar to them and their responses to fifteen posters which they were told to describe in Chinese. The children had already learned to associate Chinese sentences with most of the posters. Describing some of the posters required a certain amount of reasoning by analogy, combining vocabulary items from two or more phrases previously learned.

The three native speakers, none of whom knew the children, listened to each sentence and rated it on a scale of 1 to 5. These grades were then averaged and totaled to give two grades for each child, one for repetition (of sentences heard on tape) and the other for production (of appropriate sentences to describe posters).

The subtests of the Illinois Test of Psycholinguistic Abilities were chosen on the basis of their hypothesized relevance to foreign language

learning. They were as follows:

Verbal expression: The number of separate concepts the subject names when asked to describe a common object like a button or rubber ball.

Grammatical closure: The number of standard English forms the subject uses in completing orally sentences like "This is a child. These are _____."

Auditory closure: The number of familiar words the subject is able to guess when they are presented orally with sounds or syllables omitted.

Sound blending: The number of words the subject can put together from sounds pronounced separately by the examiner.

Auditory sequential memory: The number of increasingly longer sequences of numbers the subject can repeat.

Subtests of the Wing Standardised Test of Musical Intelligence chosen were those already mentioned in the literature:

Tonal perception: Two chords are played in succession. They are either identical or differ by a single note. The subject must state which is the case, and tell if the note that is different is higher or lower.

Tonal memory: Two short tunes are played which differ by a single note. The subject must tell which note is different.

It was hypothesized that if tonal perception and tonal memory were relevant to foreign language learning they would be particularly important in learning a tone language like Chinese.

Results

Pearson product moment correlations (r) were calculated between

repetition and production grades on the one hand and age of subject in months, scores on the five subtests of psycholinguistic ability and the two subtests of musical ability on the other. The results are summarized below:

	Age	Verbal Expression	Grammatical Closure	Auditory Closure
Production	0.46	0.43	0.50*	0.21
Repetition	0.42	0.36	0.65**	0.60**

	Sound Blending	Auditory Sequential Memory	Tonal Perception	Tonal Memory
Production	0.61**	0.23	0.39	0.19
Repetition	0.43	0.67**	0.31	0.23

*significant to .05 level

**significant to .01 level

Conclusions

1. The hypothesis of a negative relationship between age and foreign language learning is not sustained. Even repetition of foreign language sentences improves with age, although not quite as much as production. The relationship between age and foreign language production does not quite reach statistical significance at the .05 level.

2. The hypothesis that musical talent, specifically as measured by tests of tonal perception and tonal memory, is correlated with success in learning a tone language like Chinese, was not sustained. The scores of both subtests correlate positively with the foreign language grades, with

tonal perception showing higher correlations than tonal memory, but neither is statistically significant.

3. Among the scores of psycholinguistic ability, grammatical closure is significantly related to both repetition and production. Grammatical closure is a measure of both knowledge of standard English grammar and of general maturity of language development. Since the other subtests of the Illinois Test of Psycholinguistic Abilities are also designed as diagnostic tests of psycholinguistic maturity and several of them have statistically significant correlations with either production or repetition, it may be that general maturity of language development is helpful in learning a foreign language, and not a hindrance, as Penfield and Roberts (1959) suggest. Or it may simply be that children who find it easier to learn their native language also find it easier to learn a foreign language.

Indications that auditory closure and auditory sequential memory are significantly related to the ability to repeat sentences in a foreign language are not surprising, but the relationship between sound blending and foreign language production calls for more investigation. The whole area of relationships between certain measurable types of psycholinguistic abilities and foreign language learning is, as a matter of fact, one which merits further research.

REFERENCES

Andersson, Theodore. 1973. Children's Learning of a Second Language: Another View. Modern Language Journal 57: 254-259.

Arellano, Aonya I., and Jean E. Draper. 1972. Relations between Musical Aptitudes and Second-language Learning. Hispania 55: 111-121. EDRS ED050621.

Asher, James J., and Ben S. Price. 1967. The Learning Strategy of the Total Physical Response: Some Age Differences. Child Development 38: 1220-1227.

Blickenstaff, C. B. 1963. Musical Talents and Foreign Language Learning Ability. Modern Language Journal 47: 359-363.

Connor, Marjorie Wells. 1968. Learning Characteristics of Able Nonachievers in Audiolingual Foreign Language Classes. University of Cincinnati Ed. D. dissertation. Dissertation Abstracts International 29/05-A, 1446.

Dexter, E. S. 1934. Pitch Discrimination and French Accent on the High School Levels. Journal of Applied Psychology 18: 717-720.

Dexter, E. S., and K. T. Omwake. 1934. The Relation Between Pitch Discrimination and Accent in Modern Language. Journal of Applied Psychology 18: 267-271.

Diller, Karl C. 1971. 'Resonance' and Language Learning. Linguistics 70: 16-24.

Eterno, J. A. 1961. Foreign Language Pronunciation and Musical Aptitude. Modern Language Journal 45: 168-170.

Grinder, R. E., A. Otomo, and W. Toyota. 1961. Comparisons between 2nd, 3rd, and 4th Grade Children in the Audiolingual Learning of Japanese as a Second Language. Honolulu: Department of Psychology, University of Hawaii.

Herold, William R. 1970. An Experimental Study in the Teaching of French Pronunciation Using an Ad Hoc Phonemic Alphabet. S.U.N.Y. Buffalo dissertation. Dissertation Abstracts International 31/05-A, 2006.

Olson, Linda L., and S. Jay Samuels. 1973. The Relationship between Age and Accuracy of Foreign Language Pronunciation. Journal of Education Research 66: 263-268. EDRS ED060702.

Penfield, Wilder, and Lamar Roberts. 1959. Speech and Brain Mechanisms. Princeton U.P.: Princeton, N. J.

Pimsleur, Paul, Robert P. Stockwell, and Andrew L. Comrey. 1962. Foreign Language Learning Ability. Journal of Educational Psychology 53: 15-26.

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